

**ROUTE CONCEPT REPORT**


**STATE ROUTE 55  
COSTA MESA FREEWAY  
12-ORA PM 0.00/G17.86**

**PREPARED BY DISTRICT 12 DIVISION OF PLANNING**

**December, 1996**

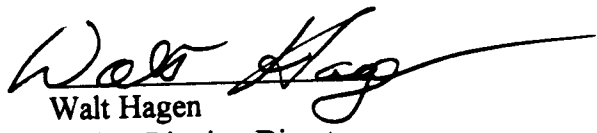
**CALTRANS DISTRICT 12 APPROVAL**

Recommended for  
Approval By:

  
Dale Ratzlaff  
Division Chief  
Division of Planning

Date 1/9/97

Approved:

  
Walt Hagen  
Acting District Director  
District 12

Date 1/13/97

**ROUTE CONCEPT REPORT**  
**STATE ROUTE 55**  
**COSTA MESA FREEWAY**  
**12-ORANGE 55 PM 0.00/G17.86**

**SUMMARY**

**STATE ROUTE 55**

State Route 55 (SR-55), also known as Costa Mesa Freeway, provides north-south access in Orange County. It is the main arterial connecting the Inland Empire Counties to central and south Orange County. It also is the main route to the beach and tourist attractions in the county's coastal communities. The average daily traffic (ADT) varies from 48,000 to 223,000. SR-55's High Occupancy Vehicle (HOV) lanes was Orange County's first such facility and has been in operation since 1985. During weekday peak periods (morning and afternoon), the general purpose lanes experience congestion and the carpool lanes operate at near capacity.

SR-55 is part of the local arterial system from Finley Avenue to 19th Street. From 19th street in City of Costa Mesa to SR-91, Route 55 is part of the freeway system. Prior to 1992 the freeway portion of SR-55 ended at Mesa Drive merging with Newport Boulevard. In 1992 the freeway portion of SR-55 was extended to 19th Street. Caltrans relinquished Newport Boulevard between Mesa Drive and 19th Street to the City of Costa Mesa for local control in 1996.

**ROUTE CONCEPT**

The Concept for this route is to provide the best Level Of Service (LOS) possible and reduce the duration of congestion. If no major capital improvements are made, it is anticipated longer traffic delays will occur. Recommended improvements include the extension of the HOV lane from I-405 to SR-73 and increasing SR-55 from an 8 to a 10 lane facility from SR-22 to SR-91.

The 1986 Route Concept Report (RCR) and this 1996 update include as a part of the Concept the extension of SR-55 freeway from Mesa Drive to Industrial Way. Freeway extension between Mesa Drive and 19th Street was completed in 1992. However, construction of the freeway between 19th Street and Industrial Way may not be fiscally feasible for some time because of existing development. Freeway construction through this area would require major right of way acquisition.

Orange County Transportation Authority's (OCTA) transitway project includes improvements at I-405/SR-55 and Caltrans has an operational improvement project to extend the auxiliary lane through the Dyer Road overcrossing. Other improvements on Route 55 will include rebuilding

the SR-1/SR-55 interchange, construction of overcrossing and HOV drop ramp at Alton Avenue, and completing the missing freeway connection at SR-73 interchange.

For planning purposes, this route has been divided into eight segments shown in table below and on the *Strip Map* displaying SR-55 segments following the *location Map*.

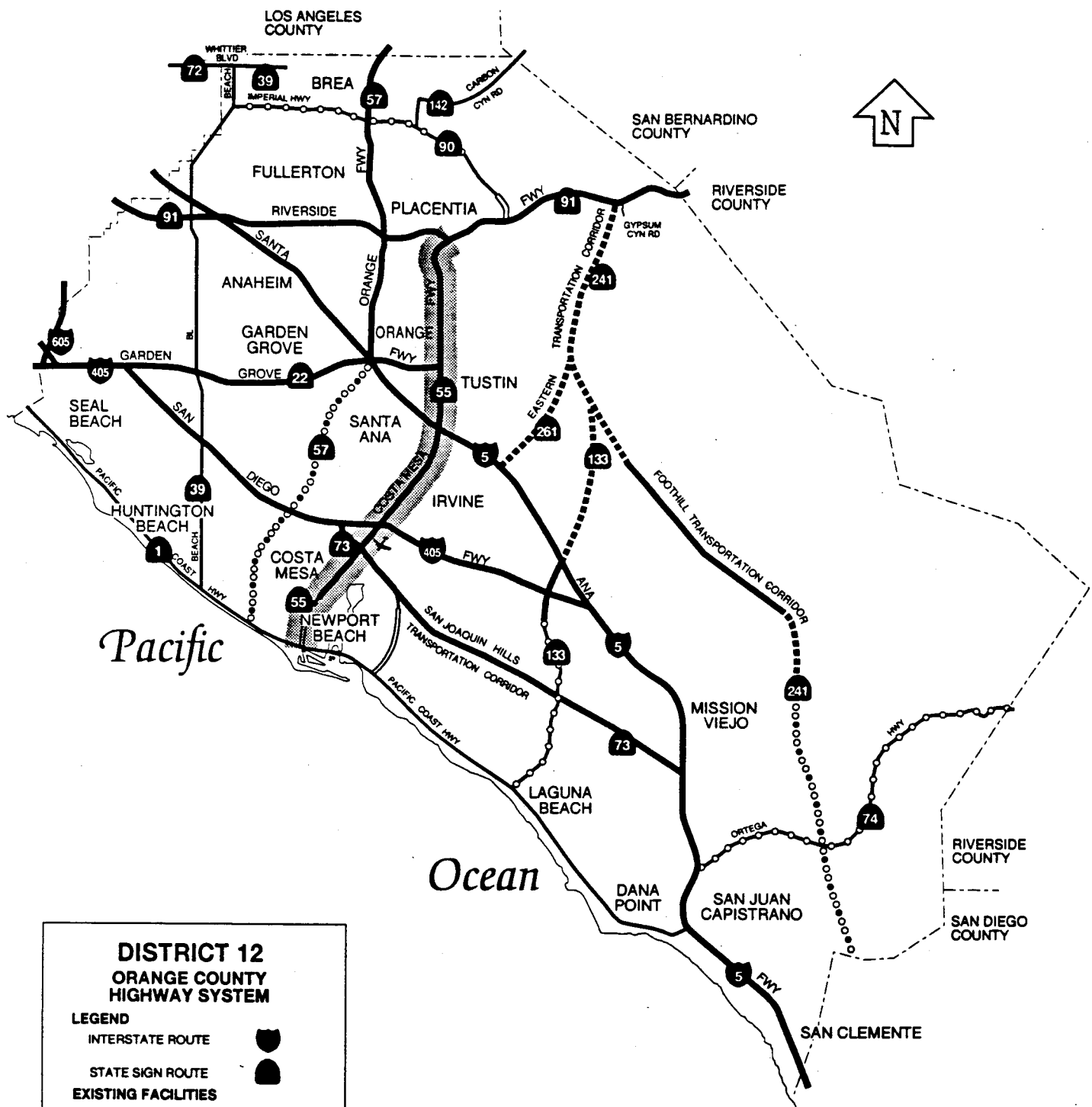
Recommended changes from existing condition are shown in ***bold italics***.

Concept Summary Table

Seg	Postmile	Limits	Existing	2015 Concept # Lanes/ Peak Hour LOS
1	0.00/0.27	Finley Avenue to PCH	4 lanes	4 Lane Conventional Hwy LOS F3
2	0.27/1.01	PCH to Industrial Way	6 lanes	6 Lanes Express Hwy LOS F0
3	1.01/R2.07	Industrial Way to 19th Street	6 lanes	<b><i>6 Lane Fwy</i></b> LOS D
4	R2.07/R4.73	19th Street to SR-73	8 lanes	8 Lane Fwy & Aux Lane where feasible LOS F0
5	R4.73/R5.99	SR-73 to I-405	6 lanes	6 Lane Fwy + 2 <b><i>HOV</i></b> LOS D
6	R5.99/10.45	I-405 to I-5	8+2 lanes	8 Lane Fwy + 2 HOV & <b><i>Transitway Project, Aux Lanes</i></b> LOS F0
7	10.45/12.96	I-5 to SR-22	8+2 lanes	8 Lane Fwy + 2 HOV & Aux Lane where feasible LOS E
8	12.96/G17.86	SR-22 to SR-91	6+2 lanes	<b><i>8 Lane Fwy</i></b> + 2 HOV & Aux Lane where feasible LOS F0











The segments where capacity enhancements are planned show improved level of service and reduced congestion. Other planned highway projects will have a major impact on the route LOS. For example, the Concept includes extension of the existing SR-57 as a private toll road from I-5 to I-405. LOS in the southern portion of SR-55 (south of I-5) is expected to deteriorate without the SR-57 extension, while the construction of the Eastern Transportation Corridor (ETC) will benefit the northern portion (north of I-5) of the route.

# LOCATION MAP



## DISTRICT 12 ORANGE COUNTY HIGHWAY SYSTEM

### LEGEND

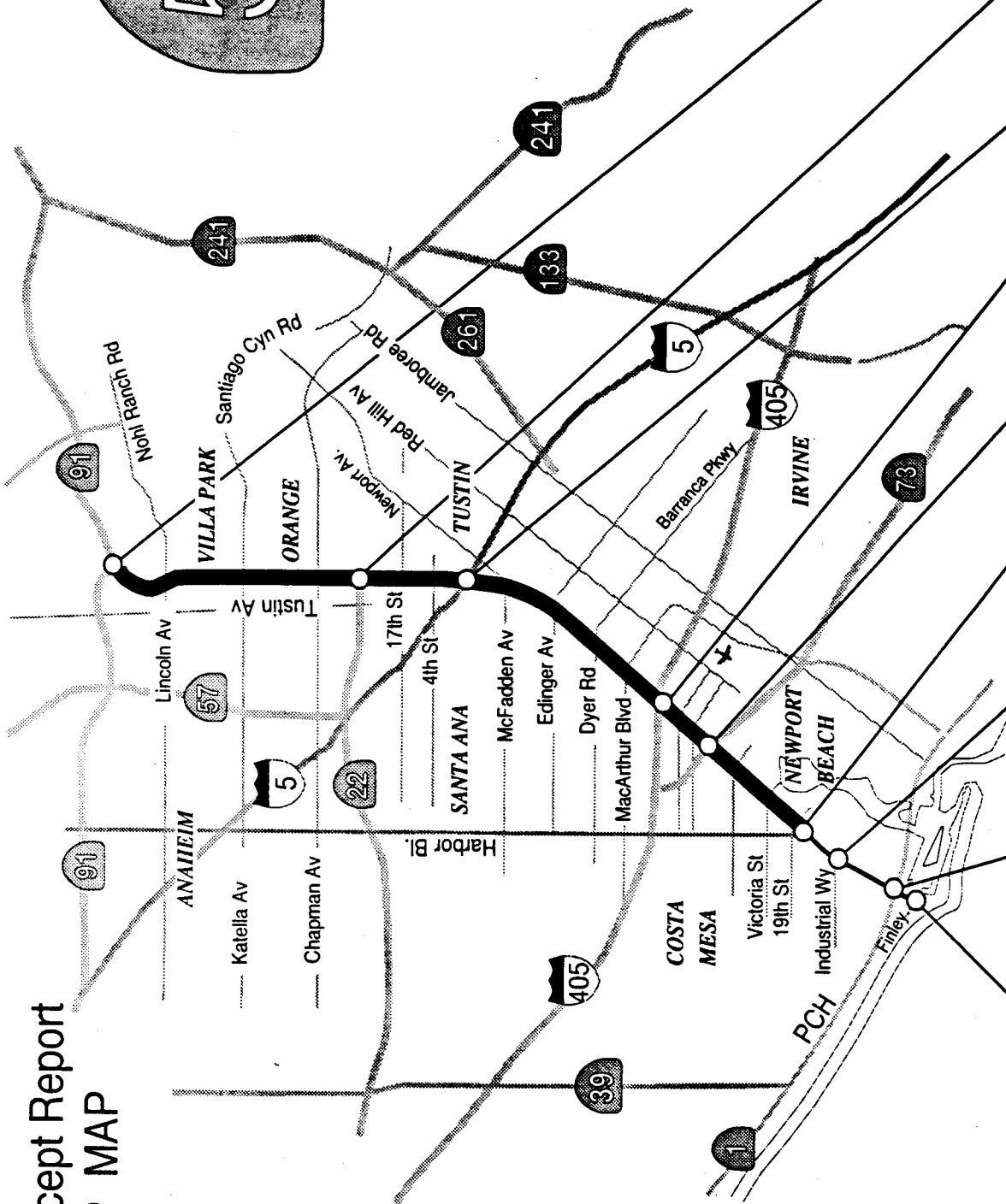
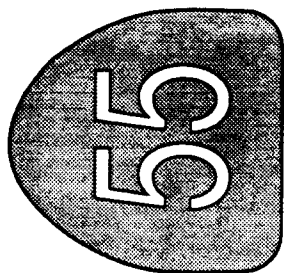
- INTERSTATE ROUTE 
- STATE SIGN ROUTE 
- EXISTING FACILITIES
  - FREEWAY 
  - EXPRESSWAY 
  - CONVENTIONAL HWYS. 
  - SECONDARY ROADS 
  - UNDER CONSTRUCTION 
- PROPOSED FACILITIES\*
  - ROUTE ADOPTED 
  - ROUTE UNDER STUDY\*\* 
  - ROUTE NOT ADOPTED\*\* 

\*may be freeway or toll facility

\*\*exact location not determined



# Route Concept Report STRIP MAP



Segment	1	2	3	4	5	6	7	8
Postmiles	0.00/0.27	0.27/1.01	1.01/R2.07	R2.07/R4.73	R4.73/R5.99	R5.99/10.45	10.45/12.97	12.97/G17.86
Limits	Finley to SR-1 (PCH)	SR-1 (PCH) to Industrial Wy	Industrial Wy to Harbor/19th	Harbor/19th to SR-73	SR-73 to I-405	I-405 to I-5	I-5 to SR-22	SR-22 to SR-91

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## **ROUTE CONCEPT REPORT**

### **STATEMENT OF PLANNING INTENT**

The Route Concept Report (RCR) is a planning document which expresses the Department's judgement on what the characteristics of each state highway should be in response to proposed land uses and projected travel demand over a 20-year planning period. Route Concept Reports are prepared in the districts and represent the combined expertise of district, local and regional agencies staff.

The RCR contains the Department's goal for the development of each route in terms of Level of Service (LOS). It broadly identifies the nature and extent of improvements needed to reach those goals. More specific design and operational detail will be included and analyzed in subsequent project development documents such as Project Study Reports (PSR), Environmental Documents, Project Reports and Preliminary and Final Design. RCR's are used in the development of District System Management Plan (DSMP) and other local planning and project development documents. For purposes of this report, projects under construction are included as existing.

The Concept LOS for this report is based on the ratio of year 2015 forecast volume to capacity for each segment of the roadway. The LOS shown in Table 2 is for peak hour/peak direction. See *Appendix 1, Graphic Representation and Definition of Level Of Service*.

In developing this RCR, the System Planning Branch considered using the metric system for designating segment limits and other significant points. It was decided that it would be inappropriate for System Planning to perform even "soft conversions" at this point in the planning process. System Planning will begin using the metric system in RCRs and other System Planning documents when the postmile system is converted and a standard set of data is in use throughout the District.

Information contained in the RCR is subject to changes as conditions and priorities change and as new information is obtained. The nature and size of identified improvements may change as they move through the project development stages, with final determinations made at the time of project planning and design. Changes that occur during project development may require revision of the RCR.

Preparation of this report included field review, review of planned and programmed projects, review of previous RCRs prepared for this route, projects under construction, and analysis of Level of Service. Internal documents from Maintenance, Project Development, Programming, Traffic, Travel Forecasting Unit, and external documents from the Orange County Environmental Management Agency (OCEMA), Orange County Transportation Authority (OCTA), and Southern California Association of Governments (SCAG) were referenced for this RCR.



## **ROUTE DESCRIPTION STATE ROUTE 55 (SR-55)**

State Route 55, SR-55, also known as Costa Mesa Freeway, is 17.86 miles long and is located entirely within County of Orange. The entire route is in an urbanized setting traversing six cities (Newport Beach, Costa Mesa, Tustin, Santa Ana, Anaheim, and Orange) and unincorporated portions of Orange County. Traveling northbound, it intersects with SR-1 (PM 0.27), SR-73 (PM 4.73), I-405 (PM 5.99), I-5 (PM 10.45), SR-22 (PM 12.96), and SR-91 (PM 17.86). This route serves major employment centers in the six cities. Other major traffic generators include:

- John Wayne Airport
- Newport Center/Fashion Island
- Coastal Recreational Facilities
- Downtown Costa Mesa
- Hoag Hospital
- South Coast Metro area
- University of California Irvine (UCI)
- Orange County Fairgrounds
- Santa Ana Civic Center
- Western Medical Center
- Mall of Orange

### **History**

SR-55 was added to the State Highway System in 1931 (formerly SR-43) and the State Freeway/Expressway system in 1959. The first section of SR-55 between Chapman Avenue and SR-91 opened in 1962. In 1966, the section between SR-73 and Chapman Avenue opened to traffic. In October of 1985, Orange County's first High Occupancy (HOV) lane opened on SR-55 between I-405 and SR-91. The freeway section of SR-55 from Mesa Drive to 19th Street was completed in summer of 1992. In late 1995, the county's first direct HOV/transitway connector opened at I-5/SR-55 interchange. This 1.4 mile long elevated facility connects carpool lanes between the two freeways (NB SR-55 to NB I-5 and SB I-5 to SB SR-55).

## **CURRENT ISSUES/PROBLEM IDENTIFICATION**

### **Downtown Costa Mesa/Triangle Square**

Downtown Costa Mesa is located at the end of the constructed SR-55 freeway at the Harbor Boulevard confluence. This area incorporates major retail and entertainment complex center which includes developments such as Triangle Square with multi-screen theater, restaurants and multi-story parking. Downtown Costa Mesa experiences much congestion during weekday peak periods and on the weekends. SR-55 carries over 71,000 ADT at 19th Street. Downtown Costa Mesa is located in the confluence of Harbor Boulevard, 19th Street, and Newport Boulevard.

Table 1 displays the ADT at the Harbor Boulevard confluence:

Table 1: ADT at Harbor Blvd. Confluence

<b>Facility</b>	<b>Direction</b>	<b>ADT at the Confluence</b>
SR-55	SW-NE	71,000
Harbor Boulevard	N-S	35,000
19th Street	E-W	34,000
Newport Boulevard	SW-NE	42,000

More than 182,000 vehicles converge to and from this area daily causing congestion at this area.

### **Transitway Projects**

A major project on SR-55 will be at the I-405/SR-55 interchange and is planned for construction by the end of this decade. This facility will provide direct HOV/Bus access between the two freeways. The main impact of this facility will be a drastic reduction of weaving movement by carpoolers and buses traveling between these two routes. The completion of I-5/SR-55, I-5/SR-57, and I-5/I-405 Transitway projects along with the I-405/SR-55 Transitway will provide carpoolers traveling between north and south Orange County an exclusive HOV facility, thus reducing weaving movements and impacts to mixed flow lanes.

This project has only funding potential at present allowing an early stage of the project to be developed, a south/south connector between I-405 and SR-55. The remaining funding is an ongoing issue for the District and Orange County Transportation Authority (OCTA).

### **State Route 73**

State Route 73 (Corona Del Mar Freeway) interchanges with SR-55 at postmile 4.73. SR-73 continues south of Jamboree Road as the San Joaquin Transportation Corridor (SJHTC) Toll Road. The impact of the Toll Road traffic on competing facilities such as I-405 and SR-1 began in November of 1996 when the entire length of the toll road was opened to traffic. The diversion of trips from I-5, I-405, and SR-1 to the Toll Road will occur, affecting the SR-55/SR-73

interchange. Currently there is no freeway connector from northbound SR-73 to southbound SR-55. This freeway connector construction is environmentally cleared and funding sources are being identified at this time for this project.

#### **SR-1/SR-55 Interchange**

SR-1/SR-55 interchange built around 1930 consists of a narrow 4-lane bridge that carries SR-55 over Pacific Coast Highway (SR-1). This interchange experiences extreme congestion during the peak hours, weekends, holidays, and summer season. The main cause of congestion is the extra demand exerted on this outdated interchange. The City of Newport Beach plans to rebuild this interchange starting in 1997.

#### **Santa Ana Canyon Slope Failure**

There is a slope failure on the east side of Santa Ana Canyon Road south of Nohl Canyon Road adjacent to Route 55 in the City of Anaheim. This area suffers from geological instability. Caltrans is aware of current slope instability at this location. A Project Study Report (PSR) is being prepared to address this situation.

## **ROUTE PURPOSE AND CLASSIFICATION**

SR-55 runs in a north-south direction beginning south of SR-1 and ending at SR-91. This route provides access to recreational and tourist areas at its southern end, and at its northern end, SR-55 provides access for Inland Empire commuters. The I-5 interchange cuts SR-55 in half and provides a southeast-northwest access for travelers on this route. The route is distinctly multipurpose in the type of travel it provides, serving commuters, tourists recreational, and local access to private and public properties.

### **Federal/State Functional Classification**

SR-55 is classified as Other Freeway or Expressway throughout Orange County.

Other designations which may affect planning and/or operations on SR-55 are:

- |  |                     |
|--|---------------------|
| • National Highway System (NHS)                                      | PM 4.73 to PM 17.86 |
| • National Truck Networks:   |                     |
| • Terminal Access Route  | PM 0.00 to PM 5.99  |
| • National Truck Route   | PM 5.99 to PM 17.86 |
| • Subsystem of Highway for the movement of Extra Legal Loads (SHELL) | PM 5.99 to PM 17.86 |
| • 12 Feet Wide Arterial System                                       | PM 0.00 to PM 17.86 |

### **Orange County Classification**

SR-55 is classified as a State Freeway/Conventional Highway on the County Master Plan of Arterial Highways (MPAH). The MPAH identifies state freeway for reference purposes only.

## **ROUTE ANALYSIS**

Route 55 interchanges with five other freeway and one conventional state highway. There are twelve local Street ramped interchanges along the freeway portion of SR-55. There are HOV bypass lanes at northbound onramp at Nohl Ranch Road, southbound onramps at Chapman and Katella Avenue, and northbound connector ramp from John Wayne Airport. SR-55 is a 4/6 lane conventional/expressway facility from Finley Avenue (PM 0.00) to 19th Street (PM 2.07). From 19th Street to SR-91 (PM 17.86), the route is a 6/8 lane freeway. There is an HOV lane on this route from I-405 to SR-91. Construction is underway on SR-55 to widen the existing facility to eight mixed flow lanes between 17th Street and SR-22. Upon the completion of this project in late summer of 1997, SR-55 should experience some relief in congestion between I-5 and SR-22.

SR-55 is programmed for widening (one mixed flow lane addition in each direction) between SR-22 and SR-91 beginning in year 1997.

### **Parallel Alternative Facilities**

There are no major routes that parallels SR-55 in it's entire length. The only freeway that parallels this route is SR-57 which is located about three miles west of the northern third of SR-55. Red Hill and Tustin Avenues serve as parallel local facilities to route 55.

### **Land Use**

For transportation planning purposes, Orange County is considered to be a fully urbanized county. The county is a continuation of the greater Los Angeles metropolitan area with the Pacific Ocean to the west, the Cleveland National Forest to the east and the Camp Pendleton Marine Corps Base to the south. The majority of the land in the county not within or adjacent to the boundaries of the national forest is developed. The primary land use is residential, with pockets of retail commercial, light industrial and professional office spaces. Industrial and commercial uses usually border freeways and major arterials.

For the purpose of this report, the county is roughly divided into north and south by SR-55 from Newport Beach to Chapman Avenue in the City of Orange. The dividing line turns east on Chapman avenue to Santiago Canyon Road east of Silverado Canyon Road east to Orange/Riverside County Line. North County lies west of SR-55 and north of Santiago and Silverado Canyon Roads. In this older portion of the county, most of the street system is based on the arterial grid system. South County lies south of Santiago and Silverado Canyon Roads and east of SR-55. South County contains much more new development and the street pattern meanders with the contours of the land. See Exhibit 1.

# Route Concept County North/South Split

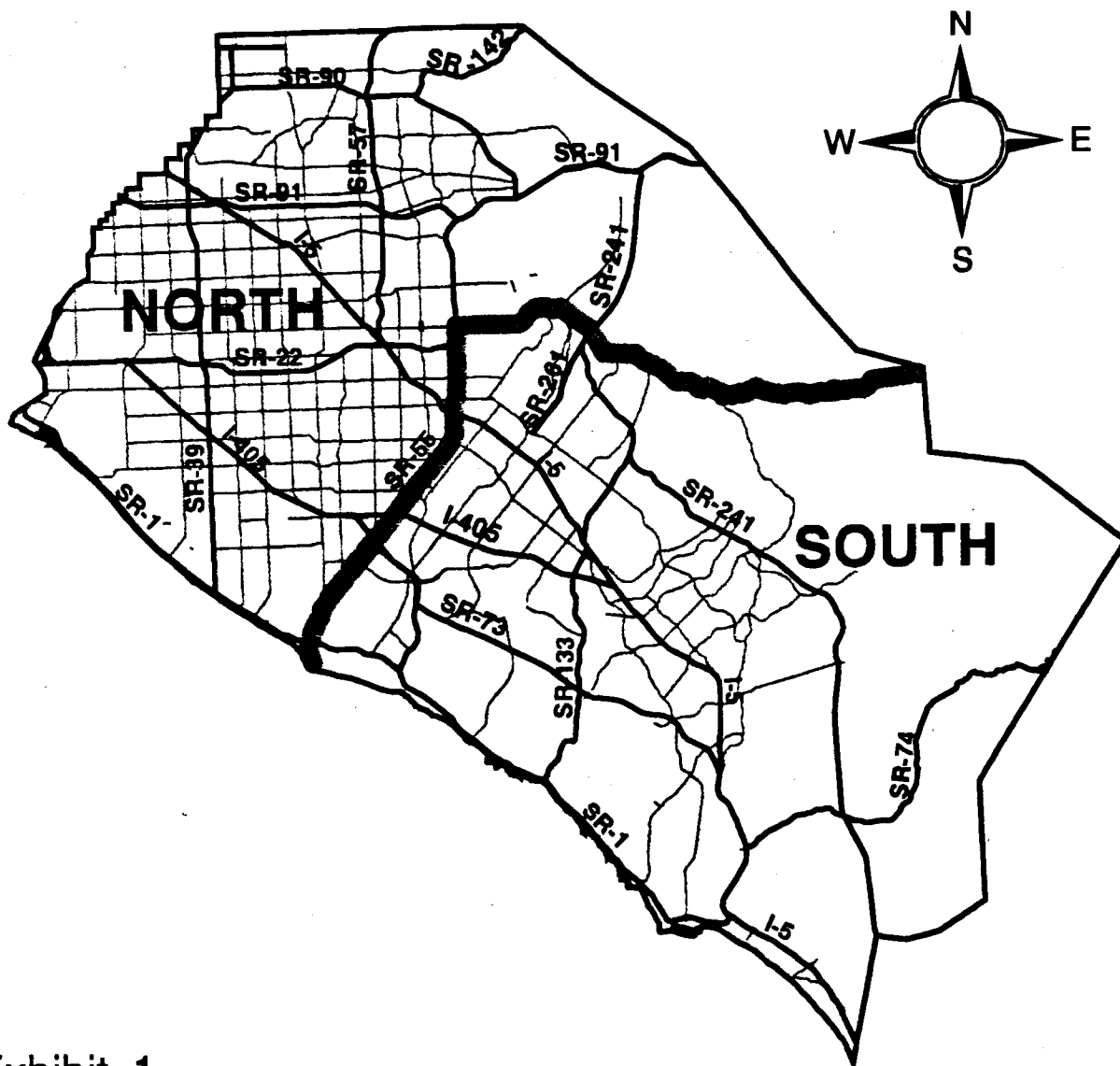


Exhibit 1

### **Military Operation**

The Tustin United States Marine Corps Air Station is located south of I-5/SR-55 interchange. This military base is scheduled for closure in late 1997, but the impacts on SR-55 are not known at this time. The City of Tustin is preparing an environmental document about the future of this land site.

### **Newport Boulevard Relinquishment**

Caltrans relinquished the Newport Boulevard frontage roads between Walnut Street/Ford Road and Bristol Street (PM 2.0 to 4.7) to the City of Costa Mesa in April of 1996.

### **Transit Services**

Orange County Transportation Authority (OCTA) is the primary bus operator in the County. There are no regular bus routes which currently operates on the freeway section of SR-55. The only "major" service (OCTA bus route 71 Orange to Irvine) uses Tustin and Red Hill Avenue as an alternative to SR-55. OCTA bus route 373 (Irvine to Brea) uses SR-55 between Dyer Road and Lincoln Avenue. OCTA bus route 53 (provides service between Balboa Peninsula and Cities of Costa Mesa and Orange) travels on SR-55 (Newport Boulevard.) from SR-1 to Hospital Road.

### **Major Park and Ride Transportation Centers**

SR-55 is served by one major Park-and-Ride facility. Caltrans developed this Park-and-Ride facility and it provides 74 spaces. The Orange Park and Ride lot is located at southeast corner of Lincoln and Tustin Avenue.

### **Bicycle Facilities**

Bicycles are only allowed on SR-55 (Newport Blvd.) between Finley Avenue and 19th Street. (PM 0.00 to 2.07)

### **Passenger Rail Service**

There is no rail service which serves the entire length of SR-55. Metrolink's Inland Empire to Orange county provides commuter rail service parallel to SR-55 between SR-91 and I-5. This Metrolink line maintains stations at Santa Ana, and Orange, and Anaheim Canyon. See Exhibit 2 for Metrolink System Map.

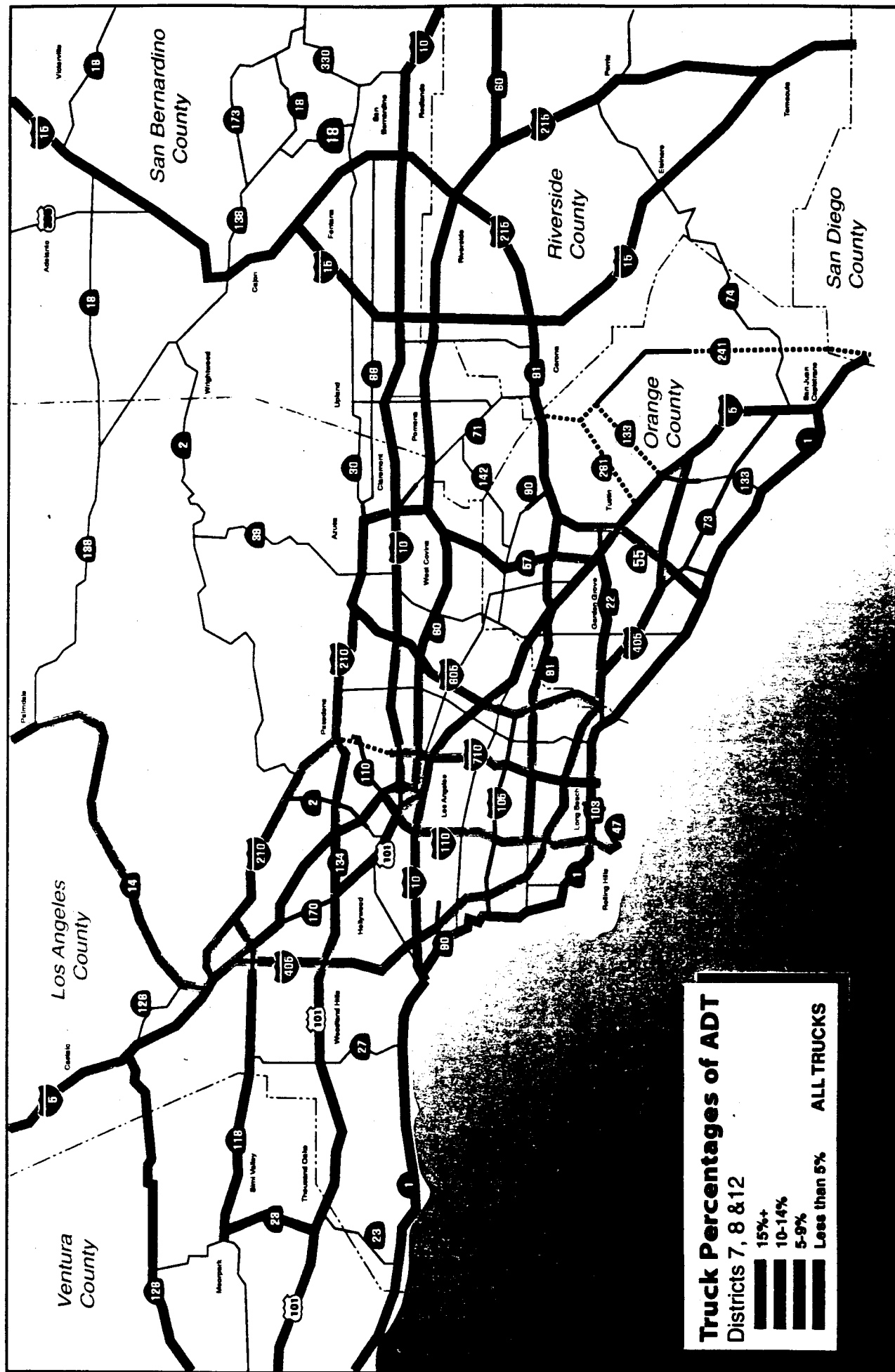
### **Truck Traffic**

SR-55 is not considered to be a major truck route in Orange County. The State Highway Inventory indicates that the truck percentage varies from 1.6% to 7.5% of the ADT. Segment near SR-1/SR-55 interchange show the least truck traffic while the segment of the route between I-5 and SR-22 shows the highest percentage of truck use.

Route 55 is part of the National Truck Network Route and the Subsystem of Highways for the movement of Extra Legal Loads (SHELL) system between I-405 and SR-91. See Exhibit 3 for Truck Traffic Map.







Graphic Prepared by District 7, Graphic Services 10/92  
 Orange County Freeways Revised 11/96



## **TRAFFIC ANALYSIS**

### **Introduction**

SR-55 is a 4 to 10 lane freeway/expressway/conventional highway facility. It is the main route connecting northern and central Orange County to the coastal communities of Huntington Beach, Newport Beach, and Corona Del Mar. It is also the main artery connecting the Inland Empire Counties to central and southern Orange County.

### **Average Daily Traffic (ADT)**

The ADT summary sheet for SR-55 follows as Table 2. This table displays the ADT, number of lanes, peak hour peak direction volume, and peak hour peak direction LOS for each of the eight segments. There are three time frames given for this information: existing, year 2015 null (do nothing), and year 2015 Concept.

Appendix 2 displays the year 2015 Concept number of lanes, ADT, peak hour volume, volume over capacity ratio, and LOS for each postmile on the route.

The information used in developing this data was collected from several sources:

- The existing data was collected from *1994 Traffic Volumes On California State Highways* book and from the Los Angeles Regional Transportation Study (LARTS) base year forecast. Other sources of information used for existing volumes may include: count stations and other information taken from previously completed environmental documents and project related studies.
- For the future time frame (year 2015 Concept and Null), the ADT has been developed using historical trends and the LARTS model. The peak hour traffic volume, peak direction volumes, and LOS are all products of the LARTS transportation model.

### **Transportation Modeling Description and Socioeconomic Summary**

The future traffic data presented in this document is a product of the Los Angeles Regional Transportation Study (LARTS) transportation model. The LARTS model simulates the interaction between socioeconomic factors and the transportation system. LARTS is a socioeconomic driven transportation model. Among existing and projected socioeconomic variables used in the development of the LARTS model are:

- population,
- employment,
- income,
- highway transportation system,
- transit service (includes rail service)

**TABLE 2 : SR-55 ROUTE CONCEPT REPORT TRAFFIC DATA**

		Year 1994 (Existing)										Year 2015 Null						Year 2015 Concept					
Postmile	Location	ADT	No of Lanes	PK HR PK DIR VOL		PK HR PK DIR LOS		ADT	No of Lanes	PK HR PK DIR VOL		PK HR PK DIR LOS		ADT	No of Lanes	PK HR PK DIR VOL		PK HR PK DIR LOS					
				NB	SB	NB	SB			NB	SB	NB	SB			NB	SB	NB	SB				
Segment 1 0.00/0.27	Finley Ave to PCH	52,000	4	2,060	2,280	1.37/F2	1.52/F3	67,000	4	2,570	2,880	1.71/F3	1.92/F3	67,000	4	2,590	2,920	1.73/F3	1.95/F3				
Segment 2 0.27/1.01	PCH to Industrial Way	48,000	6	2,080	2,710	0.63/C	0.82/D	62,000	6	3,080	3,480	0.93/D	1.05/F0	62,000	6	3,070	3,390	0.93/D	1.03/F0				
Segment 3 1.01/R2.07	Industrial Way to Harbor Blvd/ 19th Street-begin FWY	70,000	6	2,670	2,780	1.19/F0	1.24/F0	132,000	6	5,270	5,570	2.34/F3	2.48/F3	132,000	6	5,390	5,470	0.89D	0.91/D				
Segment 4 R2.07/R4.73	Harbor Blvd /19th Street begin FWY to SR-73	107,000	8	4,330	4,450	0.72/C	0.74/C	241,000	8	10,020	9,990	1.25/F0	1.25/F0	245,000	8	9,500	9,890	1.18/F0	1.24/F0				
Segment 5 R4.73/R5.99	SR-73 to I-405	125,000	6	5,350	5,150	0.89/D	0.86/D	181,000	6	7,270	7,500	1.21/F0	1.25/F0	177,000	6+2	7,060	7,240	0.88/D	0.91/D				
Segment 6 R5.99/10.45	I-405 to I-5	223,000	6+2 Aux	8,850	9,450	1.26/F1	1.35/F1	285,000	8+2	11,720	12,060	1.17/F0	1.21/F0	262,000	8+2	10,910	11,320	1.09/F0	1.13/F0				
Segment 7 10.45/12.97	I-5 to SR-22	208,000	8+2/ 6+2	8,630	9,310	1.08/F0	1.16/F0	227,000	8+2	10,570	10,470	1.06/F0	1.05/F0	246,000	8+2	10,400	10,000	1.00/E	1.00/E				
Segment 8 12.97/G17.86	SR-22 to SR-91	211,000	6+2	9,000	9,050	1.13/F0	1.13/F0	247,000	6+2	11,270	11,680	1.41/F2	1.46/F3	247,000	8+2	11,810	12,350	1.18/F0	1.23/F0				

The Southern California Association of Governments (SCAG), in cooperation with state and local county governments (Los Angeles, Orange, Riverside, San Bernardino, Ventura, and Imperial) prepared the socioeconomic forecast for the year 2015. In June 1994, SCAG completed the Regional Mobility Element (RME), the long range transportation plan for the SCAG Region. The inputs used in traffic forecast for this RCR are identical to SCAG's 1994 RME. Table 3 provides a summary of the socioeconomic variable input for the year 2015 at the county and the region level.

Table 3: Year 2015 Socioeconomic Data Summary

<b>Socioeconomic Variables</b>	<b>Year 2015-Orange County</b>	<b>Year 2015-Region *</b>
<b>Population</b>	3,179,197	20,235,306
<b>Housing</b>	1,087,809	7,093,471
<b>Employment</b>	2,005,651	9,804,758

\* Los Angeles, Orange, Ventura, and Metropolitan portions of Riverside, and San Bernardino counties.

## **ACCIDENT RATES**

### **Automobiles**

The accident rate information shown in this report is taken from Table B of the Traffic Accident Surveillance and Analysis System (TASAS). This information should be used for general planning purposes and as an indicator of how the accident rate of a particular segment of a route compares to the accident rate averages on similar routes statewide. Higher than average rates described in this report are alone not an indicator of a significant problem, since accident rates can be greatly influenced by the length of the segment and the time period being measured. See appendix 3 for TASAS Table B information on SR-55.

The Accident Surveillance Procedures Manual developed by the Division of Traffic, is used to ensure that Caltrans has statewide consistency in identifying safety problem locations and for developing recommended solutions. One tool used in this process is the TASAS table C report which lists high accident concentration locations and uses an automated system for flagging location requiring investigation.

Highway safety on state highways is Caltrans number one priority. Identification of safety problem areas is a continuous process. After a safety project is identified, it is prioritized as soon as possible and programmed in either the State Highway Operation and Protection Program (SHOPP), or through the District Minor Program. For more detailed information please refer to the Accident Surveillance Procedures Manual.

### **Bicycles**

Caltrans TASAS data is used to identify bicycle accidents that have occurred over a given time frame. There were thirty reported bicycles accidents on SR-55 between 7-1-92 and 7-1-95. None of these accidents were fatal and all occurred on the conventional highway/expressway portion of SR-55 (Newport Boulevard between Finley Avenue and 19th Street). More than a third of these accidents occurred on weekends.

## MAJOR PROGRAMMED PROJECTS

This section lists major capacity enhancement and operation projects programmed for construction beginning in State Fiscal Year 96 (FY 96/97) or later. Programmed projects are defined as having a schedule and cost. Projects are programmed into one of the three State Highway Programs: State Transportation Improvement Program (STIP), the State Highway Operation and protection Program (SHOPP), and the Traffic System Management (TSM) program. Programmed projects also include locally funded and administered projects, noted as LOCAL.

Table 4: Major Programmed Project Summary

PPN #	PM	DESCRIPTION	CODE	ESTS	FY ADV
3457	R5.7/R8.3	Add Aux Lane & Rstripe	SHOPP-OHC	2.2M	97/98
3495	9.0/9.1	Reconstruct NB Ramp Edinger	LOCAL	5.5M	97/98
3530	12.7/13.4	Widen Freeway SR-22 to La Veta Ave.	LOCAL	22.9M	97/98
3530A	13.4/14.4	Widen Freeway La Veta Ave to Walnut.	LOCAL	37.0M	97/98
3530B	14.4/15.6	Widen Freeway Walnut to Taft Ave.	LOCAL	22.9M	97/98
3530C	15.6/17.6	Widen Freeway Taft Ave. to SR-91	LOCAL	26.8M	97/98
3301	7.5/7.6	Construct Alton OC/HOV access Ramps	LOCAL	31.0M	98/99
4999C	7.6/9.6	I-405/SR-55 S HOV Connection	LOCAL	25.8M	98/99
3402	0.3/1.4	Reconstruct SR-1/SR-55 IC	LOCAL	10.3M	00/01

### Legend:

PPN=Planning and Program Number

PM=Postmile

FY ADV=Proposed Fiscal Year of Advertising

OHC=Other Highway Construction

LOCAL=Locally Funded Projects

SHOPP=State Highway Operation Project Program

TSM=Traffic System Management

## **ROUTE CONCEPT**

### **Introduction**

The Concept will provide additional capacity in portions of SR-55, but some segments will continue to operate at unacceptable Level Of Service (LOS). Due to environmental and financial constraints, it will be impossible to relieve congestion on urban roadways strictly by adding capacity. Therefore, it will be necessary now, and in the future, to better manage the existing transportation system to its full potential.

### **Regional Consistency**

The route concept called for in this report is consistent with the 1994 Regional Mobility Element (RME) by SCAG except for freeway improvement shown in segment 3. The RME is the long range regional transportation plan for the six county Southern California Region. By law, all projects programmed in the Regional Transportation Improvement Program (RTIP) must be contained in the regional transportation plan and have funding source identified. Most of the major projects already programmed or planned for this route will meet this route concept. All projects currently programmed in the RTIP for SR-55 are contained in the RME, therefore, this Concept is consistent with regional planning efforts.

### **Segment by Segment Analysis**

#### **Segment 1 (PM 0.00/0.27)**

<b>Existing Facility: Conventional Highway</b>	<b>4 lanes</b>	<b>LOS: F3</b>
<b>Concept Facility: Conventional Highway</b>	<b>4 lanes</b>	<b>LOS: F3</b>

This segment currently operates as 4 through lanes. The Concept is consistent with Orange County's Master Plan of Arterial Highways (MPAH).

#### **Segment 2 (PM 0.27/1.01)**

<b>Existing Facility: Expressway</b>	<b>6 lanes</b>	<b>LOS: D</b>
<b>Concept Facility: Expressway</b>	<b>6 lanes</b>	<b>LOS: F0</b>

This segment currently operates as 6 through lanes. The Concept calls for no changes in this segment.

The SR-1/SR-55 interchange reconstruction (See PROGRAMMED PROJECTS on page 15) is expected to improve traffic flow at this interchange.

**Segment 3 (PM 1.01/R2.07)**

<b>Existing Facility: Conventional Highway</b>	<b>6 lanes</b>	<b>LOS: F0</b>
<b>Concept Facility: Freeway</b>	<b>6 lanes</b>	<b>LOS: D</b>

This segment currently operates as 6 through lanes. The Concept calls for the extension of SR-55 freeway from 19th Street to Industrial Way. The projected LOS for the Concept would be D. However, construction of the freeway in this area may not be fiscally feasible for some time because of existing development. Freeway construction through this area would require major right of way acquisition.

**Segment 4 (PM R2.07/R4.73)**

<b>Existing Facility: Freeway</b>	<b>8 lanes</b>	<b>LOS: C</b>
<b>Concept Facility: Freeway</b>	<b>8 lanes</b>	<b>LOS: F0</b>

This segment currently operates as 8 through lanes. The Concept calls for no major changes in this segment. The Concept LOS is projected to be at F0 range.

The only planned improvement at this section is completion of missing freeway connection (NB SR-73 to SB SR-55) at Corona Del Mar Freeway interchange (SR-73).

**Segment 5 (PM R4.73/R5.99)**

<b>Existing Facility: Freeway</b>	<b>6 lanes</b>	<b>LOS: D</b>
<b>Concept Facility: Freeway</b>	<b>6 lanes +2 HOV</b>	<b>LOS: D</b>

This segment currently operates as 6 through lanes. The Concept calls extension of the existing HOV lanes in this segment. The Concept LOS is projected to be at D range in this segment.

A project has been programmed to extend the HOV lanes to Paularino/Baker Avenue. (See PROGRAMMED PROJECTS on page 15).

**Segment 6 (PM R5.99/10.45)**

<b>Existing Facility: Freeway</b>	<b>8 lanes + 2 HOV</b>	<b>LOS: F1</b>
<b>Concept Facility: Freeway</b>	<b>8 lanes + 2 HOV</b>	<b>LOS: F0</b>

This segment currently operates as six to eight through lanes and two HOV lanes. The Concept calls for eight mixed flow and two HOV lanes from I-405 to I-5 interchange. The Concept LOS is projected to be at F0 range.

SR-55 consists of four directional mixed flow lanes and an HOV lane north and south of Dyer Road overcrossing. At Dyer Road overcrossing route 55 consists of three mixed flow lanes and an HOV lane in each direction. Loss of a lane at this section causes congestion in the northbound SR-55, south of Dyer Road, and southbound SR-55 north of Dyer Road. A project has been programmed for operational improvement to extend the auxiliary lane between MacArthur



Boulevard and Dyer Road through Dyer Road overcrossing.

Another key component to programmed improvements in this section is the construction of I-405/SR-55 transitway project. This project will include direct HOV/transitway connectors between the two freeways. Other projects that have been programmed includes construction of Alton Avenue HOV drop ramp and reconstruction of the northbound ramp at Edinger Avenue. (See PROGRAMMED PROJECTS on page 15).

**Segment 7 (PM 10.45/12.96)**

**Existing Facility: Freeway**

**6/8 lanes +2 HOV**

**LOS: F0**

**Concept Facility: Freeway**

**8 lanes +2 HOV**

**LOS: E**

This segment currently operates as eight through lanes and two HOV lanes from I-5 to 17th Street. From 17th Street to SR-22, SR-55 operates as six through lanes and two HOV lanes. The Concept calls for eight mixed flow lanes and two HOV lanes for the entire segment. The Concept LOS is projected to be at range E in this segment.

There is an ongoing project widening route 55 between 17th Street and SR-22 interchange by adding one mixed flow lane and one auxiliary lane in each direction. It also includes the reconstruction of the connectors from eastbound SR-22 to the southbound SR-55, and the northbound SR-55 to the westbound SR-22. This project will be completed by late summer of 1997.

**Segment 8 (PM 12.96/G17.86)**

**Existing Facility: Freeway**

**6 lanes +2 HOV**

**LOS: F0**

**Concept Facility: Freeway**

**8 lanes +2 HOV**

**LOS: F0**

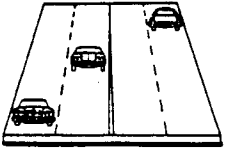
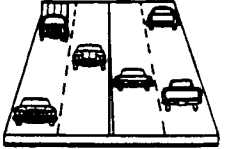
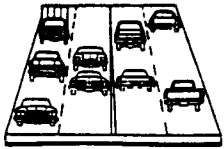
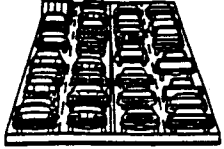
This segment currently operates as six through lanes and two HOV lanes. The Concept calls for eight mixed flow lanes and two HOV lanes for the entire segment. The Concept LOS is projected to be at range F0 in this segment.

A major component to the programmed improvement in this section is the addition of one mixed flow lane in each direction. (see PROGRAMMED PROJECTS on page 15). This project is scheduled for completion by the year 2001.

## **APPENDICES**

## APPENDIX 1

### Graphic Representation and Definition of Levels of Service

 <p style="text-align: center;"><b>A</b></p>	 <p style="text-align: center;"><b>B</b></p>	 <p style="text-align: center;"><b>C</b></p>	 <p style="text-align: center;"><b>F</b></p>
<p><b>A</b> Highest quality of service. Free traffic flow, low volumes and densities. Little or no restrictions on maneuverability or speed. 55+ mph. No delay.</p>			
<p><b>B</b> Stable traffic flow, speed becoming slightly restricted. Low restriction on maneuverability. 50 mph. No delay.</p>			
<p><b>C</b> Stable traffic flow, but less freedom to select speed, change lanes, or pass. Density increasing. 45 mph. Minimal delay.</p>			
<p><b>D</b> Speeds tolerable but subject to sudden and considerable variation. 40 mph. Minimal delay.</p>			
<p><b>E</b> Unstable traffic flow with rapidly fluctuating speeds and flow rates. Short headways, low maneuverability, and low driver comfort. 35 mph. Significant delay.</p>			
<p><b>F</b> Forced traffic flow. Speed and flow may drop to zero with high densities. Less than 25 mph. Considerable delay.</p>			

LOS	HRS OF CONGESTION
F0	0 - 1 HR
F1	1 - 2 HRS
F2	2 - 3 HRS
F3	> 3 HRS

To reflect the duration of congestion, the LOS F has been expanded into F0, F1, F2 and F3. Each LOS F indicates the time a segment is congested

## **APPENDIX 2**

**Traffic Data Tables  
Pages A2-1 Thru A2-3**

**Segment Summary Pages  
Pages A2-4 Thru A2-7**

# State Route 55 LOS - Year 1994

Postmile	Description	No. of Lanes *	1 Hr Peak		V/C **		V/C		LOS		LOS				
			A.M. (NB)	P.M. (NB)	A.M. (NB)	P.M. (NB)	A.M. (SB)	P.M. (SB)	A.M. (NB)	P.M. (NB)	A.M. (SB)	P.M. (SB)			
0.00	Finley Ave	2	52,000	2,060	1,890	1,440	2,280	1.37	1.26	0.96	1.52	F2	F1	E	F3
0.27	PCH (SR-1)	3	48,000	2,060	2,080	1,340	2,710	0.62	0.63	0.41	0.82	C	C	B	D
1.01	Industrial Way	3	70,000	2,500	2,670	2,550	2,780	1.11	1.19	1.13	1.24	F0	F0	F0	F0
R2.07	19th St	4	75,000	2,860	3,060	2,890	3,180	0.36	0.38	0.36	0.40	A	B	B	B
R2.77	Victoria/22nd St	3	77,000	2,900	3,050	2,810	3,220	0.48	0.51	0.47	0.54	B	B	B	B
R4.02	Fair Dr	3	107,000	4,000	3,820	3,440	4,110	0.67	0.64	0.57	0.69	C	C	C	C
R4.23	Mesa Dr	3	106,000	4,330	3,910	3,360	4,450	0.72	0.65	0.56	0.74	C	C	C	C
R4.73	Corona Del Mar Freeway (SR-73)	3	125,000	4,310	5,350	5,150	5,020	0.72	0.89	0.86	0.84	C	D	D	D
R5.99	San Diego Freeway (I-405)	4	214,000	8,330	8,390	8,100	8,680	1.19	1.20	1.16	1.24	F0	F0	F0	F0
R6.97	MacArthur Blvd	4	216,000	8,310	8,850	8,760	9,450	1.19	1.26	1.25	1.35	F0	F1	F0	F1
R7.85	Dyer Rd	5	217,000	7,480	8,980	9,240	8,660	0.94	1.12	1.16	1.08	D	F0	F0	F0
R9.44	Edinger Ave	5	222,000	7,470	9,430	9,810	8,980	0.93	1.18	1.23	1.12	D	F0	F0	F0
R9.96	McFadden St	5	223,000	7,630	8,900	9,300	8,610	0.95	1.11	1.16	1.08	E	F0	F0	F0
10.45	Santa Ana Freeway (I-5)	4	204,000	7,340	8,410	7,730	9,130	0.92	1.05	0.97	1.14	D	F0	E	F0
10.98	4th St	4	201,000	7,230	8,430	8,000	9,100	0.90	1.05	1.00	1.14	D	F0	E	F0
11.79	17th St	4	208,000	7,660	8,630	8,160	9,310	0.96	1.08	1.02	1.16	E	F0	F0	F0
12.97	Garden Grove Freeway (SR-22)	4	211,000	6,290	9,000	9,050	7,710	0.79	1.13	1.13	0.96	D	F0	F0	E
13.70	Chapman Ave	4	197,000	5,920	8,210	8,530	7,260	0.74	1.03	1.07	0.91	C	F0	F0	D
15.24	Katella Ave	4	185,000	5,170	8,420	8,500	6,860	0.65	1.05	1.06	0.86	C	F0	F0	D
16.98	Lincoln Ave	4	180,000	4,970	7,490	7,350	6,650	0.62	0.94	0.92	0.83	C	D	D	D
R 17.83	Riverside Freeway (SR-91)														

\* In Each Direction  
\*\* Volume to Capacity

# State Route 55 LOS - Year 2015 Null

Postmile Description	No. of Lanes *	1 Hr Peak		V/C **		V/C		LOS		LOS	
		A.M.		P.M.		A.M.		P.M.		A.M.	
		(NB)	(SB)	(NB)	(SB)	(NB)	(SB)	(NB)	(SB)	(NB)	(SB)
0.00 Finley Ave	2	67,300	2,420	2,570	1,870	2,880	1,61	1.71	1.25	1.92	F3
0.27 PCH (SR-1)	3	61,000	3,080	2,650	1,630	3,480	0.93	0.80	0.49	1.05	D
1.01 Industrial Way	3	131,500	5,270	4,930	3,840	5,570	2.34	2.19	1.71	2.48	F3
R2.07 19th St	4	199,900	7,900	7,230	5,790	7,990	0.99	0.90	0.72	1.00	E
R2.77 Victoria/22nd St	4	193,000	7,770	7,170	5,660	8,020	0.97	0.90	0.71	1.00	E
R4.02 Fair Dr	4	240,800	10,020	8,670	6,740	9,990	1.25	1.08	0.84	1.25	F0
R4.23 Mesa Dr	3	171,200	7,160	6,060	4,660	7,100	1.19	1.01	0.78	1.18	F0
R4.73 Corona Del Mar Freeway (SR-73)	3	181,300	6,690	7,270	6,240	7,500	1.12	1.21	1.04	1.25	F0
R5.99 San Diego Freeway (I-405)	5	284,500	10,880	10,350	9,140	11,540	1.09	1.04	0.91	1.15	F0
R6.97 MacArthur Blvd	5	278,800	9,590	10,780	10,480	11,400	0.96	1.08	1.05	1.14	F0
R7.85 Dyer Rd	5	283,500	8,750	11,520	11,660	10,990	0.88	1.15	1.17	1.10	F0
R9.44 Edinger Ave	5	278,200	8,130	11,590	12,060	10,670	0.81	1.16	1.21	1.07	F0
R9.96 McFadden St	5	276,300	8,040	11,720	11,470	10,540	0.80	1.17	1.15	1.05	F0
10.45 Santa Ana Freeway (I-5)	5	216,900	6,170	10,040	9,970	9,360	0.62	1.00	1.00	0.94	E
10.98 4th St	5	223,200	6,120	10,360	10,470	9,710	0.61	1.04	1.05	0.97	E
11.79 17th St	5	227,000	6,480	10,570	10,390	9,890	0.65	1.06	1.04	0.99	E
12.97 Garden Grove Freeway (SR-22)	4	247,300	5,630	11,270	11,680	9,400	0.70	1.41	1.46	1.18	F3
13.70 Chapman Ave	4	232,600	5,060	10,600	11,230	8,660	0.63	1.33	1.40	1.08	F2
15.24 Katella Ave	4	216,100	4,260	10,570	11,510	8,070	0.53	1.32	1.44	1.01	F2
16.98 Lincoln Ave/Nohl Ranch Rd	4	213,000	4,520	9,870	10,880	7,590	0.57	1.23	1.36	0.95	E
G17.86 Riverside Freeway (SR-91)											

\* In Each Direction  
\*\* Volume to Capacity

# State Route 55 LOS - Year 2015 Concept

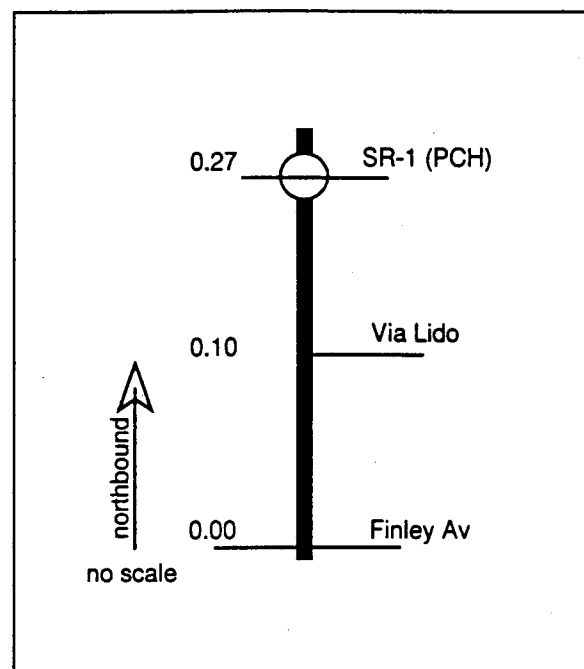
Postmile	Description	No. of Lanes *	1 Hr Peak		V/C **		V/C		LOS		LOS		
			A.M.		P.M.		A.M.		P.M.		A.M.		
			(NB)	(SB)	(NB)	(SB)	(NB)	(SB)	(NB)	(SB)	(NB)	(SB)	
0.00	Finley Ave	2	67,800	2,460	2,590	1,930	2,920	1.64	1.73	1.29	1.95	F3	F3
0.27	PCH (SR-1)	3	62,000	3,070	2,620	1,730	3,390	0.93	0.79	0.52	1.03	D	B
1.01	Industrial Way	3	131,500	5,390	4,830	4,000	5,470	0.90	0.81	0.67	0.91	D	C
R2.07	19th St	4	202,900	8,200	7,570	6,020	8,390	1.03	0.95	0.75	1.05	F0	C
R2.77	Victoria/22nd St	4	193,000	7,800	7,230	5,830	8,020	0.98	0.90	0.73	1.00	E	C
R4.02	Fair Dr	4	245,100	9,500	9,030	7,110	9,890	1.19	1.13	0.89	1.24	F0	D
R4.23	Mesa Dr	4	176,800	7,450	6,390	5,010	7,210	0.93	0.80	0.63	0.90	D	C
R4.73	Corona Del Mar Freeway (SR-73)	4	176,300	6,710	7,060	6,360	7,240	0.84	0.88	0.80	0.91	D	D
R5.99	San Diego Freeway (I-405)	5	260,200	10,370	9,630	8,590	10,920	1.04	0.96	0.86	1.09	F0	D
R6.97	MacArthur Blvd	5	236,600	8,230	9,620	9,400	9,750	0.82	0.96	0.94	0.98	D	E
R7.85	Dyer Rd	5	252,400	7,650	10,710	10,860	9,910	0.77	1.07	1.09	0.99	C	F0
R9.44	Edinger Ave	5	249,900	7,050	10,690	11,320	9,710	0.71	1.07	1.13	0.97	C	F0
R9.96	McFadden St	5	252,000	7,190	10,910	10,820	9,820	0.72	1.09	1.08	0.98	C	F0
10.45	Santa Ana Freeway (I-5)	5	210,400	6,040	9,590	9,690	8,910	0.60	0.96	0.97	0.89	C	E
10.98	4th St	5	212,600	5,920	9,770	9,980	9,100	0.59	0.98	1.00	0.91	C	E
11.79	17th St	5	217,900	6,400	10,040	10,000	9,340	0.64	1.00	1.00	0.93	C	E
12.97	Garden Grove Freeway (SR-22)	5	246,600	5,530	11,810	12,350	9,000	0.55	1.18	1.24	0.90	C	F0
13.70	Chapman Ave	5	232,500	5,050	11,100	11,850	8,280	0.51	1.11	1.19	0.83	B	F0
15.24	Katella Ave	5	215,000	4,180	11,020	11,990	7,700	0.42	1.10	1.20	0.77	B	F0
16.98	Lincoln Ave/Nohl Ranch Rd	5	212,100	4,340	10,240	11,390	7,200	0.43	1.02	1.14	0.72	B	F0
G17.86	Riverside Freeway (SR-91)												

\* In Each Direction  
\*\* Volume to Capacity

<b>TYPE OF FACILITY:</b>	<b>CONVENTIONAL HWY</b>
<b>FUNCTIONAL CLASSIFICATION :</b>	Urban - Other Freeway or Expressway
<b>MPAH DESIGNATION :</b>	Major Arterial
<b>OTHER SYSTEMS :</b>	Terminal Access Route
	<b>INSIDE SHLDR:</b> NB 0'/SB 0'
<b>TRAVELED WAY :</b>	NB 20'-22'/SB 20'-22'
<b>BIKE LANES :</b>	
<b>OUTSIDE SHLDR :</b>	NB 0'-8'/SB 0'-4'
<b>PARKING :</b>	limited

TRAFFIC DATA				
		EXISTING	2015 NULL	2015 CONCEPT
ADT		52,000	67,000	67,000
PK HR	NB	2,060	2,570	2,590
	SB	2,280	2,880	2,920
LOS	NB	1.37/F2	1.71/F3	1.73/F3
	SB	1.52/F3	1.92/F3	1.95/F3
NUMBER OF LANES*	NB	2	2	2
	SB	2	2	2
ACCIDENT RATES PER MILLION VEHICLE MILES				
TASAS DATA: FROM 7-1-92 TO 6-30-95	ACTUAL		AVERAGE	
	F+I/MVM	TOT/MVM	F+I/MVM	TOT/MVM
	1.98	4.57	1.23	2.78

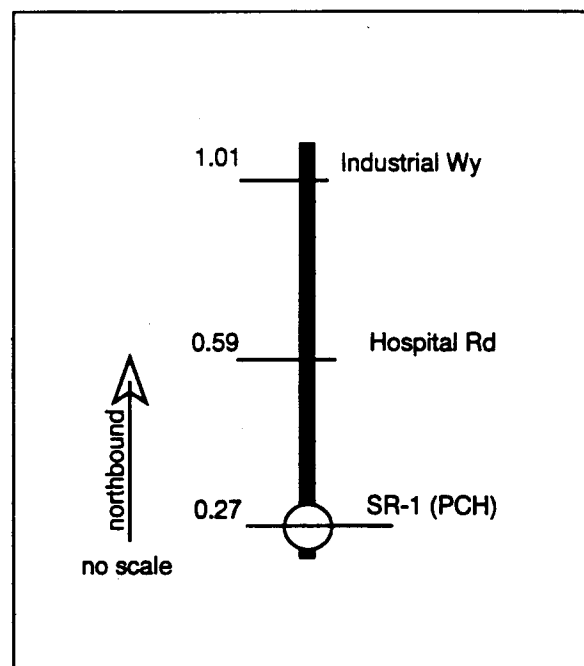
<b>STATE ROUTE 55, SEGMENT # 1</b>
<b>POSTMILE:</b> 0.00/0.27
<b>LIMITS:</b> Finley Av to SR-1 (PCH)



<b>TYPE OF FACILITY:</b>	<b>EXPRESSWAY</b>
<b>FUNCTIONAL CLASSIFICATION :</b>	Urban - Other Freeway or Expressway
<b>MPAH DESIGNATION :</b>	Major Arterial
<b>OTHER SYSTEMS :</b>	Terminal Access Route
	<b>INSIDE SHLDR:</b> NB 0'/SB 0'
<b>TRAVELED WAY :</b>	NB 20'-36'/SB 20'-36'
<b>BIKE LANES :</b>	N/A
<b>OUTSIDE SHLDR :</b>	NB 0'-8'/SB 0'-8'
<b>PARKING :</b>	N/A

TRAFFIC DATA				
		EXISTING	2015 NULL	2015 CONCEPT
ADT		48,000	62,000	62,000
PK HR	NB	2,080	3,080	3,070
	SB	2,710	3,480	3,390
LOS	NB	0.63/C	0.93/D	0.93/D
	SB	0.82/D	1.05/F0	1.03/F0
NUMBER OF LANES*	NB	3	3	3
	SB	3	3	3
ACCIDENT RATES PER MILLION VEHICLE MILES				
TASAS DATA: FROM 7-1-92 TO 6-30-95	ACTUAL		AVERAGE	
	F+I/MVM	TOT/MVM	F+I/MVM	TOT/MVM
	0.79	1.71	0.78	1.75

<b>STATE ROUTE 55, SEGMENT # 2</b>
<b>POSTMILE:</b> 0.27/1.01
<b>LIMITS:</b> SR-1 (PCH) to Industrial Wy



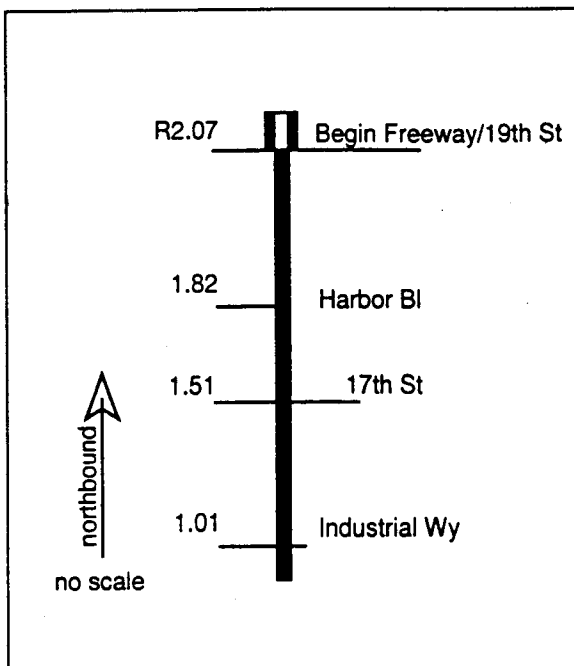
\* Number of Lanes - Mixed Flow + HOV



<b>TYPE OF FACILITY:</b>	<b>CONVENTIONAL HWY</b>
<b>FUNCTIONAL CLASSIFICATION :</b>	Urban - Other Freeway or Expressway
<b>MPAH DESIGNATION :</b>	Major Arterial
<b>OTHER SYSTEMS :</b>	Terminal Access Route
	<b>INSIDE SHLDR:</b> NB 2'-5'/SB 2'-17'
<b>TRAVELED WAY :</b>	NB 36'/SB 34'-36'
	<b>BIKE LANES :</b>
<b>OUTSIDE SHLDR :</b>	NB 8'-14'/SB 0'-12'
	<b>PARKING :</b> limited

TRAFFIC DATA				
		EXISTING	2015 NULL	2015 CONCEPT
ADT		70,000	132,000	132,000
PK HR	NB	2,670	5,270	5,390
	SB	2,780	5,570	5,470
LOS	NB	1.19/F0	2.34/F3	0.89/D
	SB	1.24/F0	2.48/F3	0.91/D
NUMBER OF LANES*	NB	3	3	4
	SB	3	3	4
TASAS DATA: FROM 7-1-92 TO 6-30-95	ACCIDENT RATES PER MILLION VEHICLE MILES			
	ACTUAL		AVERAGE	
	F+I/MVM	TOT/MVM	F+I/MVM	TOT/MVM
	1.51	2.70	0.85	1.89

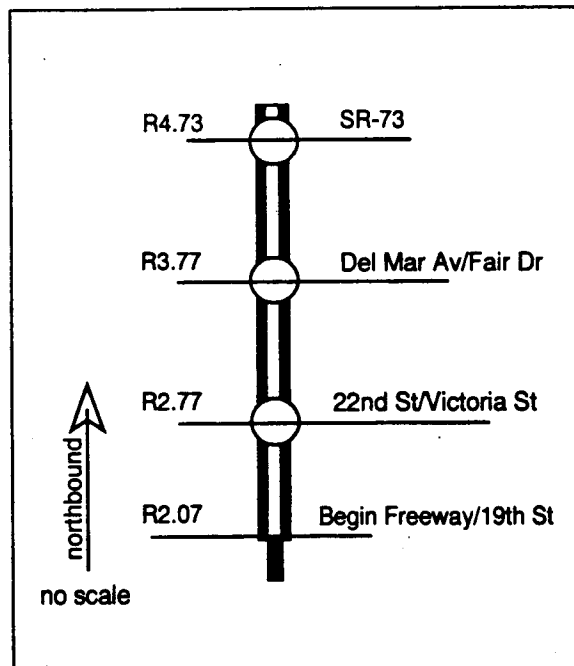
**STATE ROUTE 55, SEGMENT # 3**  
**POSTMILE:** 1.01/R2.07  
**LIMITS:** Industrial Wy to approx 19th St (begin freeway)



<b>TYPE OF FACILITY:</b>	<b>FREEWAY</b>
<b>FUNCTIONAL CLASSIFICATION :</b>	Urban - Other Freeway or Expressway
<b>MPAH DESIGNATION :</b>	State Freeway
<b>OTHER SYSTEMS :</b>	Terminal Access Route
	<b>INSIDE SHLDR:</b> NB 5'-14'/SB 5'-17'
<b>TRAVELED WAY :</b>	NB 36'-60'/SB 36'-60'
	<b>BIKE LANES :</b> N/A
<b>OUTSIDE SHLDR :</b>	NB 10'/SB 10'-12'
	<b>PARKING :</b> N/A

TRAFFIC DATA				
		EXISTING	2015 NULL	2015 CONCEPT
ADT		107,000	241,000	245,000
PK HR	NB	4,330	10,020	9,500
	SB	4,450	9,990	9,890
LOS	NB	0.72/C	1.25/F0	1.18/F0
	SB	0.74/C	1.25/F0	1.24/F0
NUMBER OF LANES*	NB	4	4	4
	SB	4	4	4
TASAS DATA: FROM 7-1-92 TO 6-30-95	ACCIDENT RATES PER MILLION VEHICLE MILES			
	ACTUAL		AVERAGE	
	F+I/MVM	TOT/MVM	F+I/MVM	TOT/MVM
	0.29	0.80	0.27	0.76

**STATE ROUTE 55, SEGMENT # 4**  
**POSTMILE:** R2.07/R4.73  
**LIMITS:** approx 19th St (begin freeway) to SR-73

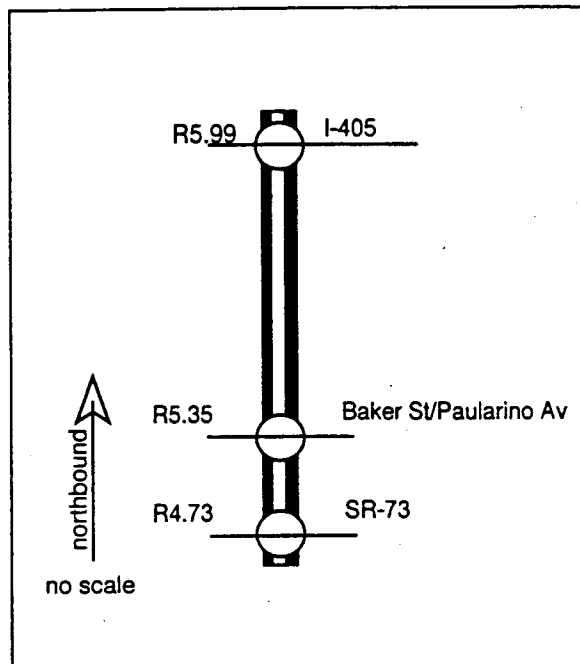


\* Number of Lanes = Mixed Flow + HOV

<b>TYPE OF FACILITY:</b>	<b>FREEWAY</b>
<b>FUNCTIONAL CLASSIFICATION :</b>	Urban - Other Freeway or Expressway
<b>MPAH DESIGNATION :</b>	State Freeway
<b>OTHER SYSTEMS :</b>	National Highway System, Terminal Access Route
	<b>INSIDE SHLDR:</b> NB 2'-14"/SB 10'-14'
<b>TRAVELED WAY :</b>	NB 36'-48"/SB 36'-48' <b>BIKE LANES :</b> N/A
<b>OUTSIDE SHLDR :</b>	NB 10"/SB 10' <b>PARKING :</b> N/A

TRAFFIC DATA				
		EXISTING	2015 NULL	2015 CONCEPT
ADT		125,000	181,000	177,000
PK HR	NB	5,350	7,270	7,060
	SB	5,150	7,500	7,240
LOS	NB	0.89/D	1.21/F0	0.88/D
	SB	0.86/D	1.25/F0	0.91/D
NUMBER OF LANES*	NB	3	3	3+1
	SB	3	3	3+1
ACCIDENT RATES PER MILLION VEHICLE MILES				
TASAS DATA: FROM 7-1-92 TO 6-30-95	ACTUAL		AVERAGE	
	F+I/MVM	TOT/MVM	F+I/MVM	TOT/MVM
	0.24	0.78	0.30	0.88

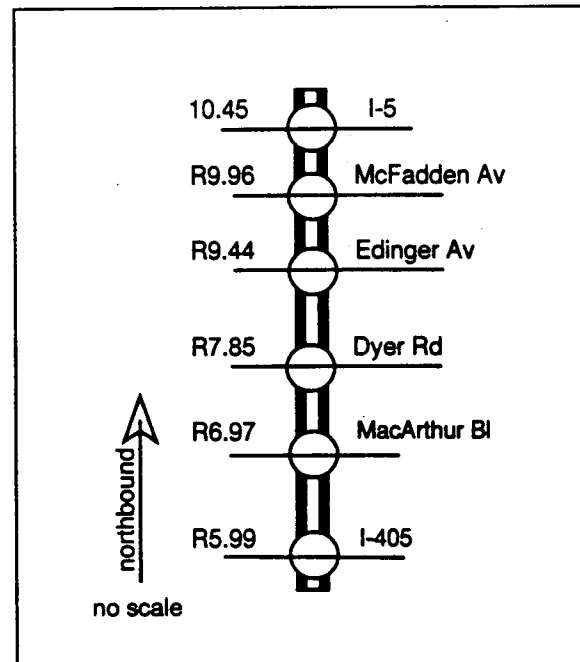
**STATE ROUTE 55, SEGMENT # 5**  
**POSTMILE: R4.73/R5.99**  
**LIMITS: SR-73 to I-405**



<b>TYPE OF FACILITY:</b>	<b>FREEWAY</b>
<b>FUNCTIONAL CLASSIFICATION :</b>	Urban - Other Freeway or Expressway
<b>MPAH DESIGNATION :</b>	State Freeway
<b>OTHER SYSTEMS :</b>	Nat'l Hwy System, Nat'l Truck Ntwk, SHELL
	<b>INSIDE SHLDR:</b> NB 2'-13"/SB 2'-13'
<b>TRAVELED WAY :</b>	NB 44'-74"/SB 36'-74' <b>BIKE LANES :</b> N/A
<b>OUTSIDE SHLDR :</b>	NB 8'-17"/SB 8'-10' <b>PARKING :</b> N/A

TRAFFIC DATA				
		EXISTING	2015 NULL	2015 CONCEPT
ADT		223,000	285,000	260,000
PK HR	NB	8,850	11,720	10,910
	SB	9,450	12,060	11,320
LOS	NB	1.26/F1	1.17/F0	1.09/F0
	SB	1.35/F1	1.21/F0	1.13/F0
NUMBER OF LANES*	NB	4+1	4+1	4+1
	SB	4+1	4+1	4+1
ACCIDENT RATES PER MILLION VEHICLE MILES				
TASAS DATA: FROM 7-1-92 TO 6-30-95	ACTUAL		AVERAGE	
	F+I/MVM	TOT/MVM	F+I/MVM	TOT/MVM
	0.31	1.39	0.29	0.86

**STATE ROUTE 55, SEGMENT # 6**  
**POSTMILE: R5.99/10.45**  
**LIMITS: I-405 to I-5**

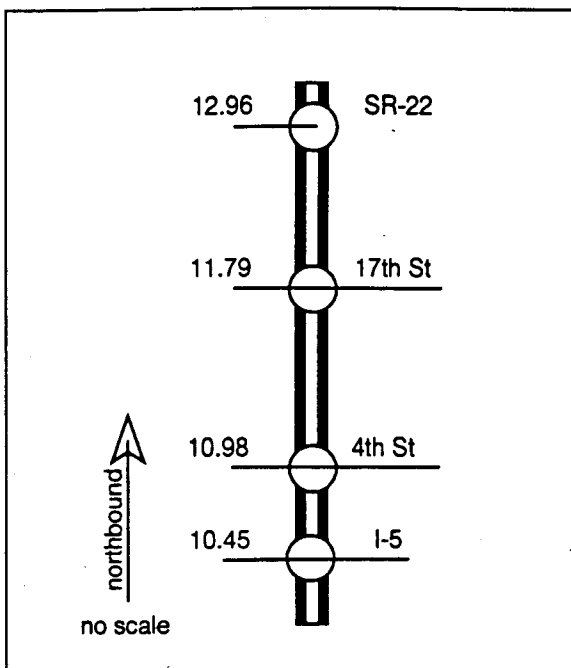


\* Number of Lanes = Mixed Flow + HOV

<b>TYPE OF FACILITY:</b>	<b>FREEWAY</b>
<b>FUNCTIONAL CLASSIFICATION :</b>	Urban - Other Freeway or Expressway
<b>MPAH DESIGNATION :</b>	State Freeway
<b>OTHER SYSTEMS :</b>	Nat'l Hwy System, Nat'l Truck Ntwk, SHELL
	<b>INSIDE SHLDR:</b> NB 2'-16"/SB 2'-16"
<b>TRAVELED WAY :</b>	NB 44'-76"/SB 44'-76' <b>BIKE LANES :</b> N/A
<b>OUTSIDE SHLDR :</b>	NB 8'-10"/SB 8'-10' <b>PARKING :</b> N/A

TRAFFIC DATA					
		EXISTING	2015 NULL	2015 CONCEPT	
ADT		208,000	227,000	218,000	
PK HR	NB	8,630	10,570	10,040	
	SB	9,310	10,470	10,000	
LOS	NB	1.08/F0	1.06/F0	1.00/E	
	SB	1.16/F0	1.05/F0	1.00/E	
NUMBER OF LANES*	NB	3+1	4+1	4+1	
	SB	3+1	4+1	4+1	
TASAS DATA: FROM 7-1-92 TO 6-30-95	ACCIDENT RATES PER MILLION VEHICLE MILES				
	ACTUAL			AVERAGE	
	F+I/MVM	TOT/MVM	F+I/MVM	TOT/MVM	
	0.39	2.19	0.32	0.95	

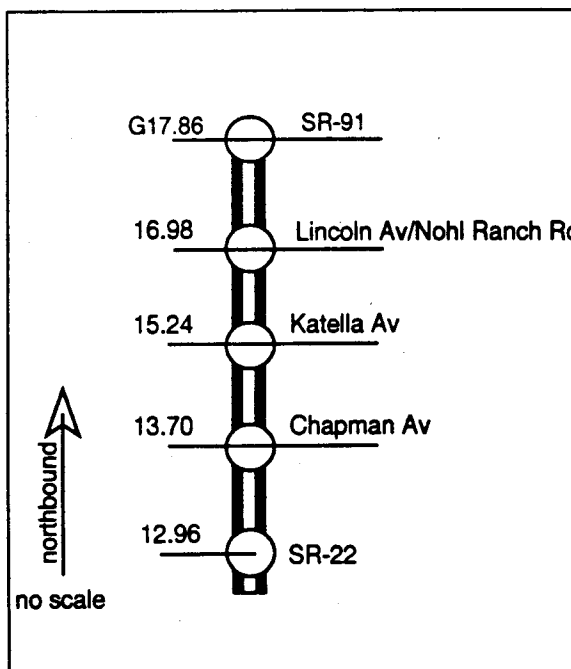
**STATE ROUTE 55, SEGMENT # 7**  
**POSTMILE: 10.45/12.96**  
**LIMITS: I-5 to SR-22**



<b>TYPE OF FACILITY:</b>	<b>FREEWAY</b>
<b>FUNCTIONAL CLASSIFICATION :</b>	Urban - Other Freeway or Expressway
<b>MPAH DESIGNATION :</b>	State Freeway
<b>OTHER SYSTEMS :</b>	Nat'l Hwy System, Nat'l Truck Ntwk, SHELL
	<b>INSIDE SHLDR:</b> NB 2'-11"/SB 2'-11"
<b>TRAVELED WAY :</b>	NB 36'-48"/SB 24'-48' <b>BIKE LANES :</b> N/A
<b>OUTSIDE SHLDR :</b>	NB 8'-12"/SB 8'-24' <b>PARKING :</b> N/A

TRAFFIC DATA							
		EXISTING		2015 NULL		2015 CONCEPT	
ADT		211,000		247,000		247,000	
PK HR	NB	9,000		11,270		11,810	
	SB	9,050		11,680		12,350	
LOS	NB	1.13/F0		1.41/F2		1.18/F0	
	SB	1.13/F0		1.46/F3		1.23/F0	
NUMBER OF LANES*	NB	3+1		3+1		4+1(1)	
	SB	3+1		3+1		4+1(1)	
TASAS DATA: FROM 7-1-92 TO 6-30-95	ACCIDENT RATES PER MILLION VEHICLE MILES						
	ACTUAL				AVERAGE		
	F+I/MVM		TOT/MVM		F+I/MVM		TOT/MVM
	0.23		0.98		0.37		1.08

**STATE ROUTE 55, SEGMENT # 8**  
**POSTMILE: 12.96/G17.86**  
**LIMITS: SR-22 to SR-91**



\* Number of Lanes = Mixed Flow + HOV

## APPENDIX 3

### Accident Rates from TASAS

TASAS Summary Table

**SR-55**

7/1/92 through 6/30/95

SEG	POSTMILE	DESCRIPTION	ACTUAL			AVERAGE		
			FATAL	FATAL + INJURY	TOTAL	FATAL	FATAL + INJURY	TOTAL
1	0.00/0.27	Finley to PCH	0.000	1.98	4.57	0.017	1.23	2.78
2	0.27/1.01	PCH to Industrial Way	0.000	0.79	1.71	0.016	0.78	1.75
3	1.01/R2.07	Industrial Way to 19th Street	0.000	1.51	2.70	0.014	0.85	1.89
4	R2.07/R4.73	19th Street to SR-73	0.017	0.29	0.80	.004	0.27	0.76
5	R4.73/R5.99	SR-73 to I-405	.0006	0.24	0.78	0.006	0.30	0.88
6	R5.99/10.45	I-405 to I-5	0.003	0.31	1.39	0.004	0.29	0.86
7	10.45/12.96	I-5 to SR-22	0.000	0.39	2.19	0005	0.32	0.95
8	12.96/G17.86	SR-22 to SR-91	0.004	0.23	0.98	0.007	0.37	1.08

\*accident rates per million vehicles or per million vehicle miles from TASAS Table B

## **APPENDIX 4**

### **Bikeway Classifications**

- |  |  |
|--|--|
| <b>Class I Bikeway (Bike Path):</b>    | <b>Provides a completely separated right-of-way for the exclusive use of bicycles and pedestrians with crossflow minimized.</b>  |
| <b>Class II Bikeway (Bike Lane):</b>   | <b>Provides a restricted right of way (striped lane) for the exclusive or semi-exclusive use of bicycles with through travel by motorized vehicles or pedestrians prohibited but with crossflows by pedestrians and motorists permitted.</b> |
| <b>Class III Bikeway (Bike Route):</b> | <b>Provides for shared use with pedestrians or motor vehicle traffic.</b>  |

## **APPENDIX 5**

### **New Technology**

#### **Intelligent Transportation Systems (ITS)**

There are currently two pilot projects on-going in Orange County which may be considered as Intelligent Transportation System (ITS) projects. The first of these is the Mobile Video Surveillance and Communications Project. This project locates portable trailers at critical locations along the highway to monitor flow conditions on the mainline and interactively regulate on-ramp traffic flow. The second ITS project is the Integrated Freeway Ramp Meter/Arterial Adaptive Signal Control Project. This project will allow for the joint monitoring of the I-5 and I-405 interchange area and Alton Parkway by the District and the City of Irvine. The intent of both of these projects is to apply several new technologies in an effort to optimize traffic flow.

#### **Intelligent Vehicle Highway Systems (IVHS)**

These systems utilize what is also commonly referred to as smart systems. There are three basic components necessary to implement a fully functional IVHS. These three are discussed below.

##### **Advanced Traveler Information Systems (ATIS)**

This type of system would provide the motorist with real-time traffic routing information. This information could be provided to the motorist using virtually any medium including television, radio, telephone and personal computer. Information could be routed to offices, homes or even directly to an in-vehicle device.

##### **Advanced Traffic Management Systems (ATMS)**

These systems include the potential use of AVI (Automatic Vehicle Identification) systems and ATIS for electronic detection and interface with real-time TOS information. Other areas of research include bottleneck evaluations and the policies and procedures to be required for automated highway operation.

##### **Automated Vehicle Control Systems (AVCS)**

The greatest potential for improving highway safety within the IVHS technologies is the AVCS. These systems can electronically enhance or automate driving functions. There are two basic types of driving control offered for use of this new technology. First is the lateral control system which controls vehicle steering, and the second is the longitudinal system which automates vehicle spacing, or the distance between vehicles. PATH (see below) is currently researching both types of driving control systems. It is anticipated that these systems are more long term innovations but do have a high potential for feasible implementation.

### **Showcase for IVHS - The Priority Corridor**

The Priority Corridor proposal is an endeavor to demonstrate the actual full potential of the transportation network with all possible new technologies in place and integrated. This comprehensive and coordinated approach should reveal new capabilities of the transportation system. It is meant to serve as a living laboratory for new developments in transportation.

The Priority Corridor is geographically described as: bounded on the north by SR-126 and I-210; on the east by SR-71, I-15 and I-215; on the south by the U.S. border with Mexico, the Otay Mesa Border crossing and SR-905; and on the west by the Pacific Ocean. This corridor includes a myriad of intermodal systems for moving people and goods. It is also an air quality non-attainment area and experiences severe congestion. The corridor is host to over half the population and jobs in California. It is being viewed as a Showcase for IVHS. This plan proposes to take full advantage of four Transportation Management Centers (TMC's), IVHS and Intermodal Transportation Management and Information System (ITMIS).

Consequently, the numerous and diverse difficulties experienced within the corridor area render it an ideal proving ground for new technology. These factors also provide an excellent opportunity to evaluate intermodal technologies, traffic management techniques, traveler information systems, passenger and fleet management systems, as well as freight vehicle control systems. Deployment and implementation of these different technologies will attempt to optimize and coordinate freeway and street operations with public and private transportation systems within the corridor. A cooperative effort among Caltrans, CHP, regional, county and city governments and the MPOs is essential to the success of Priority Corridor operations.

### **New Technology Research and Development**

The Program on Advanced Technology for the Highway (PATH) has been established in cooperation with Caltrans and the California Institute of Transportation Studies. PATH researches new technologies such as warning and avoidance systems and electronic braking. PATH also analyzes ATIS, IVHS and ATMS developments for costs and feasibility.

The District is committed to working with cities, the county, regional agencies, other state agencies, and academic institutions on the research, development and implementation of new technology in the development of the transportation system. The implementation of new technology is necessary to obtain optimum efficiency of the system.

## **APPENDIX 6**

### **Urban Freeway Standards**

In April 1992 the Transportation Planning Branch completed a Traffic Operation Systems (TOS) Plan for District 12. The TOS Plan outlined the traffic system management elements required for efficient operation of the state highway system. Following is an excerpt from that report.

"The goal of the Plan is to develop ultimate urban and regional freeways and highways, defined as transportation corridors, which have all system elements satisfied and will provide the following benefits:

- Operate facilities at maximum efficiency
- Minimize and manage travel delay and congestion
- Disseminate motorist information using advanced technologies.

The typical urban freeway operations plan includes:

- Electronic Loop Detectors
- Closed Circuit Television (CCTV)
- Changeable Message Signs (CMS)
- Highway Advisory Radio (HAR)
- Freeway Ramp Meters
- Communications System
- Traffic Management Center (TMC)
- Major Incident Response Teams
- Motorist Call Boxes
- Freeway Service Patrols (FSP)
- Airborne Surveillance
- Smart Corridor Interface with Local Agencies
- High Occupancy Vehicle (HOV) Facilities.

Methods to achieve maximum efficiency on transportation facilities include: ramp metering, freeway incident detection and confirmation (CCTV surveillance, etc.), freeway incident response teams, and FSP. Methods to disseminate motorist information include provision of real-time information on traffic conditions to allow motorists to make informed route decisions by using CMS, HAR, In-Vehicle Navigation Systems and teletext services (Commuter TV). Management of data includes monitoring technologies such as loop detectors and CCTV."

The TOS Plan was updated by Traffic Operations in January 1994. This iteration of the TOS Plan refined definitions and uses of the various technologies outlined in the original report. More importantly the updated version looked closer at actual implementation plans and schedules. Several TOS elements were identified as individual projects with identified funding and implementation schedules. Because of potential cost savings several other projects were proposed to be included as an element of larger projects (widening/reconstruction, adding HOV



lanes, etc.); however in many of these cases no funding was identified. Finally, several new projects were identified which neither had funding nor implementation schedules.

Full implementation of the TOS Plan elements is an integral part of this and all other freeway route concepts in Orange County. It is the goal of Caltrans District 12 to bring each freeway route in Orange County up to urban freeway standards. It may be most cost effective to implement these items as part of larger projects in order to save on project development and engineering costs.

### **New Technology**

There are several elements of the existing and future transportation system which are referred to as "new technology". It would also be appropriate to consider most of these elements as Traffic System Management (TSM) elements. Most of the above mentioned TOS elements take full advantage of new technology and these categories have a good deal of crossover application between them. In addition to the TOS elements mentioned above in the URBAN FREEWAY STANDARDS section other New Technology programs are currently being implemented in Orange County, both on and off the State Highway System. Please see Appendix 5 NEW TECHNOLOGY for a brief outline of new technology programs and some implementation efforts currently underway in Orange County.

## **APPENDIX 7**

### **References**

RCR Prepared by Caltrans District 7 (1986)

OCEMA Existing Bikeways Map (1992)

OCEMA Traffic Flow Map showing ADTs (1994)

Traffic Accident Surveillance and Analysis System (TASAS)

OCTA Transit Guide-October 1995

Caltrans 1994 Traffic Volumes on California State Highways

Project Management Control System (PMCS) Milestone Report

## **GLOSSARY/ACRONYMS**

ADT - Average Daily Traffic  
ATMS - Advanced Traffic Management Systems  
ATIS - Advanced Traveler Information Systems  
AVCS - Automated Vehicle Control Systems  
CCTV - Closed Circuit Television  
CHP - California Highway Patrol  
CMS - Changeable Message Sign  
DSMP - District System Management Plan  
ETC - Eastern Transportation Corridor  
FSP - Freeway Service Patrol  
FTC - Foothill Transportation Corridor  
HAR - Highway Advisory Radio  
HOV - High Occupancy Vehicle  
ITS - Intelligent Transportation Systems  
ITMIS - Intermodal Transportation Management and Information System.  
IVHS - Intelligent Vehicle Highway Systems  
HOT - HOV/Toll  
LARTS - Los Angeles Regional Transportation Study  
LOS - Level Of Service  
MPAH - Master Plan of Arterial Highways  
MPO - Metropolitan Planning Organization  
NB - Northbound  
NHS - National Highway System  
OCEMA - Orange County Environmental Management Agency  
OCTA - Orange County Transportation Authority  
OHC - Other Highway Construction  
PM - Postmile  
PPN - Planning and Program Number  
PSR - Project Study Report  
RAS - Rehabilitate and Safety  
RCR - Route Concept Report  
RME - Regional Mobility Element  
SB - Southbound  
SCAG - Southern California Association of Governments  
SHELL - Subsystem of Highways for the movement of Extra Legal Loads

**SHOPP - State Highway Operation Project Program**

**SJHTC - San Joaquin Hills Transportation Corridor**

**SR - State Route**

**STIP - State Transportation Improvement Program**

**TASAS - Traffic Accident Surveillance and Analysis System**

**TMC - Transportation Management Center**

**TOS - Traffic Operation Systems**

**TSM - Traffic System Management**

**TSM - Transportation System Management**

**UCI - University of California Irvine**